

35 USC § 103 Rejections

As to claim 1, the Examiner states that "Claims 1-7 are rejected under 35 U.S.C 103 (a) as being unpatentable over McAllister et al. [US 4,734,046]. McAllister et al. discloses a space transformer [figure 2] comprising: - a power conductor [46]; - at least one power pin [52, 70, 80]; - a ground conductor [48]; - at least one ground pin [54, 72, 82]; - at least one decoupling capacitor [74, 84] electrically connected to the power and ground conductors; and - at least one signal pin [56]. McAllister et al. discloses the instant claimed invention except for the arrangement of the decoupling capacitor. It would have been obvious to one having ordinary skill in the art at the time the invention was made to disposed the decoupling capacitor between the power and ground conductors for the purpose of reducing the height of the transformer."

Applicants contend that claim 1, as amended, is not obvious in view of McAllister et al. because McAllister et al does not teach or suggest every feature of claim 1. For example, McAllister et al does not teach or suggest "one or more decoupling capacitors physically located between said ground conductor and said power conductor." Applicants respectfully point out that McAllister et al. in FIG. 2 and col. 6 lines 25-34 that "The capacitors 74, 84 are preferably of thin film construction and spatially position as desired on the top and bottom external surfaces of the space transformer 12. Connection of the capacitors 74, 84 is made to the power layer 46 and ground layer 48 by respective power 70, 80 and ground 72, 82 buses." It is quite clear that the capacitors of McAllister et al. are not "physically located between said ground conductor and said power conductor" as required by Applicants claim.

Further, the Examiners stated motivation for the arrangement of the capacitors, to wit "reducing the height of the transformer," does not appear to originate from the prior art but has been supplied by the Examiner in violation of *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed

Cir. 1991). Applicants point out, McAllister et al. teaches a reduction in size of coaxial wires in probe 14 not a reduction in size (and which in itself is different from a reduction in height) of space transformer 12. Therefore, the Examiner has not established his *prima facie* case of obviousness and has improperly shifted the burden to Applicants.

Still further, it is *impossible* to place capacitors between power layer 46 and ground layer 48 of McAllister et al because the space between power layer 46 and ground layer 48 is filled with ceramic layer 42 which is precisely why McAllister et al. resorts to connecting capacitors 74, 84 to buses 70, 80 and 72, 82. Additionally, capacitors of sufficient size to act as decoupling capacitors could not fit into the space between conductors in an MLC and could not survive the MLC fabrication process if the capacitors were so placed.

Based on the preceding arguments, Applicants respectfully maintain that claim 1 is not unpatentable over McAllister et al and is in condition for allowance. Since claims 2-8 and 31-35 depend from claim 1, Applicants respectfully maintain that claims 1-8 and 31-35 are likewise in condition for allowance.

As to claim 8, the Examiner states " Claim 8 is rejected under 35 U.S.C 103 (a) as being unpatentable over McAllister et al. in view of VanSchaik et al. [US 4,663,604]. McAllister et al. discloses the instant claimed invention except for the coolant channel in the ground conductor. VanSchaick et al. discloses a hollow conductor with coolant in a transformer. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include a coolant channel in the ground conductor of McAllister et al., as suggested by VanSchaik et al., for the purposes of providing heat transfer."

Applicants point out that VanSchaik et al. teaches in col. 2, line 16 that the transformer rating is "about 3000 KVA to about 10,000 KVA" which requires coils made of wires that have a

large enough cross-sectional area to be made hollow. By contrast, McAllister et al. teaches in col. 5, lines 10-13 that "The space transformer 12 is a multilayer ceramic (MLC) design fabricated using conventional ceramic layer laminate technology." It is well known in the MLC art, that the conductive layers between ceramic layers are very thin and solid. In fact the conductive layers are far too thin to be made hollow and survive the MLC fabrication processes. Further, enlarging the MLC of McAllister et al. to the point of allowing hollow conductive layers would render the entire space transformer 12 of McAllister et al. far too large to be of any use in testing integrated circuits.

Based on the preceding arguments, Applicants respectfully maintain that claim 8 is not unpatentable over McAllister et al and is in condition for allowance.

Applicants request, since claim 9 depends from claim 1, that claim 9, be rejoined with claims 1-8 and allowed in the event that claim 1 is found to be allowable.

CONCLUSION

Based on the preceding arguments, Applicants respectfully believe that all pending claims and the entire application meet the acceptance criteria for allowance and therefore request favorable action. If Examiner believes that anything further would be helpful to place the application in better condition for allowance, Applicants invite the Examiner to contact the Applicants' representative at the telephone number listed below. The Director is hereby authorized to charge and/or credit Deposit Account 09-0456.

Respectfully submitted,
FOR:
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